

ANSI EESCC Roadmap Draft Outline

July 2013

EXECUTIVE SUMMARY

1. INTRODUCTION

Situational Assessment for Energy Efficiency: Provide overview of the need; why standards, codes, and conformity assessment programs are important.

EESCC Roadmap Goals: 1) identify what standards, codes, and conformance programs are available or under development, what gaps exist, and what additional standardization activities are needed to advance energy efficiency in the United States; and 2) to increase awareness of these activities to support the adoption and implementation of standards, codes, and conformance activities among the public and private sectors.

Intended Audience for Roadmap: The audience for this EESCC roadmap includes end users of standards, codes, and conformance programs in both the public and private sectors: building owners, operators, and purchasers, architects and engineers, policymakers at federal, state, local level, and the standardization community. The roadmap is intended to help explain the value of standards, codes, and conformance programs to these audience groups.

Policy maker education and aligning economic incentives with regulatory policy

Many of the organizations participating in this collaborative have developed comprehensive energy conservation and efficiency standards and codes for over 20 years. These documents are extensive and widely known in the construction industry. In addition to the identified goals of wider awareness and understanding of existing energy codes and standards, and the identification of possible gaps in the standards and codes needed to increase efficiency, many believe that it is essential to note that some economic incentives are not aligned well with the interests of those who could be effective advocates for the adoption and enforcement of standards and codes that are designed to increase the energy efficiency of buildings.

Stakeholders who build, own and operate buildings, as well as the organizations that represent them, often look at the “first cost” of installing energy efficient systems and are not convinced the energy use savings that may result from implementing the latest codes and standards offer payback within a reasonable time, or that the payback will accrue to the home/building buyer, but not the builder. In other situations, due to the structure of typical building leasing and rental agreements, the cost of energy use is passed along to building tenants, providing little incentive for owners to invest in efficiency upgrades. On the residential side, government-insured finance mechanisms do not yet require the cost of building energy to be included in a home appraisal. As a result, it is difficult to demonstrate an increase in appraised value when energy efficiency is built into the structure, in the same way that additional space or luxury appliances and countertops will be reflected in a higher appraised value. The organizations that work to produce codes and standards in this realm believe that it is important to note

Comment [JZ1]: Text developed by D. Karmol and N. McNabb, reviewed by WG1 for Roadmap Goals/Intended Audience section.

these political and economic barriers, in addition to the codes, standards and other technical barriers reflected in this roadmap.

Role of Conformity Assessment

As this EESCC roadmap makes clear, standards and codes play a key role in advancing energy efficiency and enabling industry and consumers to adopt more energy-efficient technologies and processes. But just as critically important are conformity assessment activities like testing, inspection, certification, and accreditation.

The ISO/IEC 17000:2004, *Conformity Assessment - Vocabulary and general principles*, defines conformity assessment as a “demonstration that specified requirements relating to a product, process, system, person or body are fulfilled.” As such, conformity assessment activities form the vital link between standards (which define characteristics or requirements), and the products, systems, or personnel themselves.

As energy efficiency technologies continue to evolve, the marketplace is becoming increasingly reliant on the methods used to ensure that products comply with the requirements of those standards. Conformity assessment programs play an important role in all of the EESCC’s areas of focus, and are an intrinsic part of determining the actual energy efficiency attributes of products and systems, as well as the credentialing of individuals working in specific energy efficiency fields.

There are three approaches to conformity assessment [possible sidebar]. They are: first-party conformity assessment, second-party conformity assessment and third-party conformity assessment. One important component of conformity assessment is **certification** – third-party attestation related to products, processes, or persons that conveys assurance that specific requirements have been demonstrated. Certification bodies, testing laboratories, and inspectors have a critical role to play in assuring that products, personnel, and services comply with standards.

Accreditation – an independent, third-party assessment of a certification body’s competency is another critical element that plays an important role in increasing marketplace confidence. Multilateral Recognition Agreements (MRAs) and Multilateral Recognition Arrangements (MLAs) – like those established by ILAC¹ and IAF² – reinforce the value of accreditation on an international scale, eliminating the need for costly multiple assessments and reducing technical barriers to trade. Inspection and certification bodies may therefore wish to consider seeking accreditation by an ILAC MRA or IAF MLA³ signatory where such arrangement exists, or from their national accreditation bodies.

The standards used to determine conformity and that have a general application in verifying energy efficiency can be found in the International Organization for Standardization’s (ISO) Conformity Assessment Committee (CASCO) Toolbox (the collection of CASCO standards) and in the EESCC Inventory Database. The conformity assessment standards that have applicability to the five EESCC working groups include:

¹ ILAC is the International Laboratory Accreditation Cooperation - an international cooperation of laboratory and inspection accreditation bodies formed more than 30 years ago to help remove technical barriers to trade. There are several internationally recognized U.S. accreditation bodies.

² International Accreditation Forum (IAF)

³ International Accreditation Forum (IAF) Multilateral Recognition Arrangement (MLA)

Comment [JZ2]: Section spearheaded by S. Ricciarini/A2LA in partnership with ANSI.

1. ISO/IEC 17021:2011, *Conformity assessment – Requirements for bodies providing audit and certification of management systems*
2. ISO/IEC 17025:2005, *Conformity assessment – General requirements for the competence of testing and calibration laboratories*
3. ISO/IEC 17024:2012, *Conformity assessment – General requirements for bodies operating certification of persons*
4. ISO/IEC 17020:2012, *Conformity assessment – Requirements for the operation of various types of bodies performing inspection*
5. ISO/IEC 17065:2012, *Conformity assessment - Requirements for bodies certifying products, processes and services*

Roadmap Boundaries: Describe the boundaries of the EESCC Roadmap - The focus is on energy efficiency in the built environment. The collaborative is focused on U.S. standardization activities; consideration given to relevant regional and international activities.

Roadmap Structure: This section will provide an explanation of how the roadmap is laid out.

2. BACKGROUND

- Brief overview of how the EESC Roadmap was developed
- Overview of entities operating in EE standardization space (domestic and foreign)

3. DISCUSSION OF WG ISSUE AREAS AND GAP ANALYSIS

3.1 EESCC WG Introduction Overview ****Directions for Drafting Text: WG Co-Chairs**

- Draft short, succinct paragraphs (5-10 sentences) explaining:
- What the area encompasses and establish any necessary boundaries
- Why this issue was considered important and assessed in the roadmap
- How this issue -- and the standards, codes, and conformance activities that support it -- is critical to advancing EE

3.1.1. Specific WG Issue Areas (WG1 Issue Area #1 (i.e., Building Envelope))

****Directions for Drafting Text: Issue Leads**

- Draft short, succinct paragraphs (5-10 sentences) defining issue and importance
- Articulate importance of standards, codes, conformance programs to this issue
- Provide synopsis (list) of relevant standards, codes, conformance programs
- Provide assessment and explanation (3-8 sentences) of gap analysis (gap, no gap)
- Make recommendation for addressing gaps and assessing standardization priorities (near term: 1-2 years; mid-term: 2-5 years; long-term: 5+years)

4. NEXT STEPS: This section will provide a discussion of next steps and how the roadmap can be maintained as a “living document” moving forward.

APPENDICES: EESCC Inventory Database and other supporting materials